

What is claimed is:

1. A method for applying individualized calibrated tone-reproduction curves to enable printing of image data, comprising the steps of:
  - 5 (a) providing a plurality of calibrated tone-reproduction curves, each calibrated tone-reproduction curve corresponding to a distinct media type;
  - (b) determining a media type to be used in printing the image data;
  - (c) selecting a calibrated tone-reproduction curve based on the determined media type; and
  - 10 (d) applying the selected calibrated tone-reproduction curve to print the image data.
2. The method as claimed in claim 1, further comprising the step of:
  - (e) determining a halftone to be used in printing the image data;
- 15 said step (a) providing a plurality of calibrated tone-reproduction curves, each calibrated tone-reproduction curve corresponding to a distinct halftone type and media type combination;
- 20 said step (c) selecting a calibrated tone-reproduction curve based on the determined media type and determined halftone type.
3. The method as claimed in claim 1, further comprising the steps of:

(e) performing a plurality of calibration operations, each calibration operation using a distinct media type;

(f) generating a tone-reproduction curve for each media type; and

(g) storing the generated the tone-reproduction curves;

5 said step (a) providing a plurality of stored calibrated tone-reproduction curves, each stored calibrated tone-reproduction curve corresponding to a distinct media type.

4. The method as claimed in claim 1, further comprising the steps of:

(e) performing a plurality of calibration operations, each calibration operation 10 using a distinct media type and halftone type combination;

(f) generating a tone-reproduction curve for each media type and halftone type combination;

(g) storing the generated the tone-reproduction curves; and

(h) determining a halftone to be used in printing the image data;

15 said step (a) providing a plurality of stored calibrated tone-reproduction curves, each stored calibrated tone-reproduction curve corresponding to a distinct media type and halftone type combination;

said step (c) selecting a calibrated tone-reproduction curve based on the determined media type and determined halftone type.

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5. The method as claimed in claim 1, further comprising the steps of:

(e) performing a plurality of calibration operations, each calibration operation using a distinct media type;

(f) generating a tone-reproduction curve for each media type calibration;

(g) comparing the plurality of tone-reproduction curves to group tone-reproduction curves having similar characteristics;

5 (h) selecting a single tone-reproduction curve from a group of tone-reproduction curves having similar characteristics, each single tone-reproduction curve being the tone-reproduction curve associated with the media types that generated the tone-reproduction curve having similar characteristics;

10 (i) storing selected and non-grouped tone-reproduction curves; and

(j) generating a map to link a stored tone-reproduction curve to a media type, a stored tone-reproduction curve being capable of being mapped to more than one media type;

15 said step (a) providing a plurality of stored calibrated tone-reproduction curves, each stored calibrated tone-reproduction curve corresponding to a distinct media type.

6. The method as claimed in claim 1, further comprising the steps of:

(e) performing a plurality of calibration operations, each calibration operation using a distinct media type and halftone type combination;

20 (f) generating a tone-reproduction curve for each media type and halftone type combination calibration;

(g) comparing the plurality of tone-reproduction curves to group tone-reproduction curves having similar characteristics;

(h) selecting a single tone-reproduction curve from a group of tone-reproduction curves having similar characteristics, each single tone-reproduction curve being the tone-reproduction curve associated with the media type and halftone type combinations that generated the tone-reproduction curve having similar characteristics;

5 (i) storing selected and non-grouped tone-reproduction curves; and

(j) generating a map to link a stored tone-reproduction curve to a media type and halftone type combination, a stored tone-reproduction curve being capable of being mapped to more than one media type and halftone type combination; and

10 (k) determining a halftone to be used in printing the image data;

      said step (a) providing a plurality of stored calibrated tone-reproduction curves, each stored calibrated tone-reproduction curve corresponding to a distinct media type and halftone type combination;

15      said step (c) selecting a calibrated tone-reproduction curve based on the determined media type and determined halftone type.

7. The method as claimed in claim 1, further comprising the step of:  
printing of image data on a xerographic printing device using the selected calibrated tone-reproduction curve.

8. A system for applying individualized calibrated tone-reproduction curves to enable printing of image data, comprising:

    a storage device to store and provide a plurality of calibrated tone-reproduction curves, each calibrated tone-reproduction curve corresponding to a distinct halftone type and media type combination;

    an input device to select a media type to be used in printing the image data and to select a halftone to be used in printing the image data; and

    a processor to select a calibrated tone-reproduction curve based on the selected media type and determined halftone type and to apply the selected calibrated tone-reproduction curve to print the image data.

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9. The system as claimed in claim 8, further comprising:

    a xerographic printing device using the selected calibrated tone-reproduction curve to print image data.

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10. The system as claimed in claim 9, wherein:

    said input device selects a halftone to be used in printing the image data;

    said storage device provides a plurality of calibrated tone-reproduction curves, each calibrated tone-reproduction curve corresponding to a distinct halftone type and media type combination;

20    said processor selects a calibrated tone-reproduction curve based on the selected media type and selected halftone type.

11. The system as claimed in claim 9, further comprising:

calibration means for performing a plurality of calibration operations, each calibration operation using a distinct media type;

5        said calibration means generating a tone-reproduction curve for each media type;

      said storage device storing the generated the tone-reproduction curves and providing a plurality of stored calibrated tone-reproduction curves, each stored calibrated tone-reproduction curve corresponding to a distinct media type.

10        12. The system as claimed in claim 9, further comprising:

      calibration means for performing a plurality of calibration operations, each calibration operation using a distinct media type;

      said calibration means generating a tone-reproduction curve for each media type;

      said input device selecting a halftone to be used in printing the image data;

15        said storage device storing the generated the tone-reproduction curves and providing a plurality of stored calibrated tone-reproduction curves, each stored calibrated tone-reproduction curve corresponding to a distinct halftone type and media type combination;

      said processor selecting a calibrated tone-reproduction curve based on the selected

20        media type and selected halftone type.

13. The system as claimed in claim 9, further comprising:

calibration means for performing a plurality of calibration operations, each calibration operation using a distinct media type;

    said calibration means generating a tone-reproduction curve for each media type calibration;

5       said calibration means comparing the plurality of tone-reproduction curves to group tone-reproduction curves having similar characteristics;

    said calibration means selecting a single tone-reproduction curve from a group of tone-reproduction curves having similar characteristics, each single tone-reproduction curve being the tone-reproduction curve associated with the media types that generated  
10      the tone-reproduction curve having similar characteristics;

    said storage device storing selected and non-grouped tone-reproduction curves;

    said calibration means generating a map to link a stored tone-reproduction curve to a media type, a stored tone-reproduction curve being capable of being mapped to more than one media type;

15       said storage device providing a plurality of stored calibrated tone-reproduction curves, each stored calibrated tone-reproduction curve corresponding to a distinct media type.

14. The system as claimed in claim 9, further comprising:

20       calibration means for performing a plurality of calibration operations, each calibration operation using a distinct media type and halftone type combination;

said calibration means generating a tone-reproduction curve for each media type and halftone type combination calibration;

    said calibration means comparing the plurality of tone-reproduction curves to group tone-reproduction curves having similar characteristics;

5       said calibration means selecting a single tone-reproduction curve from a group of tone-reproduction curves having similar characteristics, each single tone-reproduction curve being the tone-reproduction curve associated with the media type and halftone type combinations that generated the tone-reproduction curve having similar characteristics;

    said storage device storing selected and non-grouped tone-reproduction curves;

10       said calibration means generating a map to link a stored tone-reproduction curve to a media type and halftone type combination, a stored tone-reproduction curve being capable of being mapped to more than one media type and halftone type combination; and

    said input device selecting a halftone to be used in printing the image data;

15       said storage device providing a plurality of stored calibrated tone-reproduction curves, each stored calibrated tone-reproduction curve corresponding to a distinct media type and halftone type combination;

    said processor selecting a calibrated tone-reproduction curve based on the selected media type and selected halftone type.

20       15. The system as claimed in claim 9, further comprising:

    an auto-segmentation circuit to determine a halftone to be used in printing the image data;

14 said storage device providing a plurality of calibrated tone-reproduction curves, each calibrated tone-reproduction curve corresponding to a distinct halftone type and media type combination;

15 said processor selecting a calibrated tone-reproduction curve based on the selected media type and determined halftone type.

16. The system as claimed in claim 9, further comprising:

17 calibration means for performing a plurality of calibration operations, each calibration operation using a distinct media type;

18 said calibration means generating a tone-reproduction curve for each media type; and

19 an auto-segmentation circuit to determine a halftone to be used in printing the image data;

20 said storage device storing the generated the tone-reproduction curves and providing a plurality of stored calibrated tone-reproduction curves, each stored calibrated tone-reproduction curve corresponding to a distinct halftone type and media type combination;

21 said processor selecting a calibrated tone-reproduction curve based on the selected media type and determined halftone type.

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23 17. The system as claimed in claim 9, further comprising:

calibration means for performing a plurality of calibration operations, each calibration operation using a distinct media type and halftone type combination;

    said calibration means generating a tone-reproduction curve for each media type and halftone type combination calibration;

5       said calibration means comparing the plurality of tone-reproduction curves to group tone-reproduction curves having similar characteristics;

    said calibration means selecting a single tone-reproduction curve from a group of tone-reproduction curves having similar characteristics, each single tone-reproduction curve being the tone-reproduction curve associated with the media type and halftone type combinations that generated the tone-reproduction curve having similar characteristics;

10       said storage device storing selected and non-grouped tone-reproduction curves;

    said calibration means generating a map to link a stored tone-reproduction curve to a media type and halftone type combination, a stored tone-reproduction curve being capable of being mapped to more than one media type and halftone type combination; and

15       an auto-segmentation circuit to determine a halftone to be used in printing the image data;

    said storage device providing a plurality of stored calibrated tone-reproduction curves, each stored calibrated tone-reproduction curve corresponding to a distinct media type and halftone type combination;

20       said processor selecting a calibrated tone-reproduction curve based on the selected media type and determined halftone type.

18. A system for applying individualized calibrated tone-reproduction curves to enable printing of image data, comprising:

storage means for storing and providing a plurality of calibrated tone-reproduction curves, each calibrated tone-reproduction curve corresponding to a distinct halftone type  
5 and media type combination;

first means for determining a media type to be used in printing the image data;

second means for determining a halftone to be used in printing the image data;

and

10 third means for selecting a calibrated tone-reproduction curve based on the determined media type and determined halftone type and applying the selected calibrated tone-reproduction curve to print the image data.

19. The system as claimed in claim 18, further comprising:

15 a xerographic printing device using the selected calibrated tone-reproduction curve to print image data.

20. The system as claimed in claim 18, further comprising:

calibration means for performing a plurality of calibration operations, each calibration operation using a distinct media type;

20 said calibration means generating a tone-reproduction curve for each media type;

said storage means storing the generated tone-reproduction curves and providing a plurality of stored calibrated tone-reproduction curves, each stored calibrated

tone-reproduction curve corresponding to a distinct halftone type and media type combination;

    said third means selecting a calibrated tone-reproduction curve based on the determined media type and determined halftone type.

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21. The system as claimed in claim 18, further comprising:

    calibration means for performing a plurality of calibration operations, each calibration operation using a distinct media type and halftone type combination;

10    said calibration means generating a tone-reproduction curve for each media type and halftone type combination calibration;

    said calibration means comparing the plurality of tone-reproduction curves to group tone-reproduction curves having similar characteristics;

15    said calibration means selecting a single tone-reproduction curve from a group of tone-reproduction curves having similar characteristics, each single tone-reproduction curve being the tone-reproduction curve associated with the media type and halftone type combinations that generated the tone-reproduction curve having similar characteristics;

    said storage means storing selected and non-grouped tone-reproduction curves;

20    said calibration means generating a map to link a stored tone-reproduction curve to a media type and halftone type combination, a stored tone-reproduction curve being capable of being mapped to more than one media type and halftone type combination; and

said storage means providing a plurality of stored calibrated tone-reproduction curves, each stored calibrated tone-reproduction curve corresponding to a distinct media type and halftone type combination;

5 said third means selecting a calibrated tone-reproduction curve based on the  
determined media type and determined halftone type.